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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

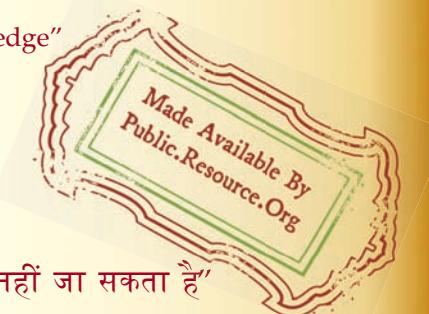
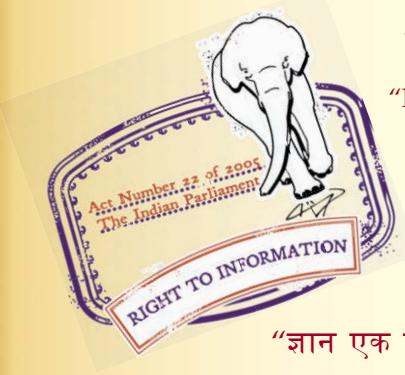
“Step Out From the Old to the New”

IS 6877 (1977): Cabinet, Instruments [MHD 12: Hospital Equipment]

“ज्ञान से एक नये भारत का निर्माण”

Satyanaaranay Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartṛhari—Nītiśatakam

“Knowledge is such a treasure which cannot be stolen”





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Indian Standard

## SPECIFICATION FOR CABINET, INSTRUMENTS

(First Revision)

**1. Scope** — Covers dimensional and other requirements for instruments cabinet, used primarily in hospitals, dispensaries and health units.

**2. Materials**

**2.1 Mild Steel Sheet** — Hot-rolled or cold-rolled quality conforming to IS : 1079-1973 'Specification for hot-rolled carbon steel sheet and strip (third revision)' or IS : 513-1973, 'Specification for cold-rolled carbon steel sheets (second revision)'.

**2.2 Angles** — Mild steel for hot-rolled angles shall conform to IS : 226-1969 'Specification for structural steel (standard quality) (fourth revision)'. Hot-rolled mild steel angle shall conform to IS : 808-1964 'Specification for rolled steel beam, channel and angle sections (revised)'. The minimum thickness of angles shall be 3.0 mm. Angles may also be cold-formed from strip steel conforming to IS : 513-1973. The cold-formed strips shall be not less than 3.0 mm.

**2.3 Flats and Strips** — The strips shall conform to IS : 1029-1970 'Specification for hot-rolled steel strips (baling) (first revision)'.

**2.4 Glass** — Glass shall conform to the requirements of IS : 1761-1960 'Specification for transparent sheet glass for glazing and framing purposes.' All edges of the glass panel shall be ground. It shall be fitted firm on rubber pads in the frame. The thickness of glass shall be as follows:

For sides and front	4.0 $\pm$ 0.5 mm
For shelves	6.0 $\pm$ 0.5 mm

**2.5 Screws** — Screws shall conform to IS : 1365-1968 'Specification for slotted countersunk head and slotted raised countersunk head screws (dia range 1.6 to 20 mm) (second revision)'.

**3. Dimensions and Tolerances**

**3.1** The dimensions of the cabinet shall be as given in Table 1.

TABLE 1 DIMENSIONS OF CABINET, INSTRUMENTS

(All dimensions in millimetres)

Size	Dimension			No. of Shelves
	Height	Width	Depth	
(1) Small	(2) 750	(3) 450	(4) 300	(5) 2 (Single door)
Large	1 600	900	450	5 (Double door)

**Note** — The height of cabinet shall exclude the height of leg supports.

**3.2 Tolerances** — Deviation of  $\pm$  5 mm shall be allowed on all dimensions.

**4. Construction**

**4.1 Sides** — The sides shall be made from suitable angle iron and glass panel fitted to the frame to make them transparent. If required by the purchaser the sides may be made from steel sheets not less than 0.8 mm thick and without any dents and burrs. The width of the sides shall correspond to the depth of the top. The sides shall extend between the extreme surfaces of top and bottom shelves.

**4.2 Back** — The back shall be made from steel sheet not less than 0.8 mm thick and without any burrs or dents. The width of the back sheets shall correspond to width of the top. The back shall extend between the extreme faces of the top and bottom shelves.

**4.3 Top and Bottom** — The length of the bottom shall cover the width of the cabinet and the breadth shall cover the depth of the cabinet. This shall be made from steel sheet not less than 1 mm thick and without any burrs or dents.

**4.4 Shelves** — The shelves shall be of glass as given in 2.4. Each shelf shall be supported on four shelf brackets and with rubber studs. The bracket shall be made of steel sheet not less than 1.6 mm thick. The bracket shall be so designed and constructed that the shelf is securely supported and that adjustment inside the bracket can be affected easily. The glass shelves shall be interchangeable. Small cabinet shall have a height of first compartment as 300 mm approximately and for the rest two as 215 mm approximately. While the large cabinet shall have the equal height for all compartments. If required by the purchaser provision shall be made to adjust the height of different shelves.

**4.5 Doors** — The small size cabinet shall have a single door while large size cabinet shall be provided with two door-leaves as described in 4.5.1 to 4.5.3.

**4.5.1 Single door** — The door frame shall be made from sheet steel of minimum 1.6 mm thickness having reinforcement in the middle. Glass pane shall be fitted to the frame with the help of rubber or PVC liner and the flats. The door shall be hinged to the right side of the cabinet and shall have a hole for the handle and a key slot for the key of the lock.

**4.5.2 Right door** — The right door frame shall be not less than 1.6 mm thick having reinforcement at 3 equidistant places along its height. The door shall be hinged to the right side of the cabinet and shall have a hole for the handle and key slot for the key of the lock. The clearance around the door between the door flanges and side, top and bottom flanges shall not be more than 1.25 mm.

**4.5.3 Left door** — This shall be similarly constructed as the right door and hinged to the left side of the cabinet. The door shall have a rebate on the free end over which the right door shall overlap. The clearance between the two doors when closed, and around the left door shall not be more than 1.25 mm.

**4.6 Leg Supports** — The leg supports shall be made from angle iron not less than 3 mm thick and shall be properly stiffened. The leg support shall not project out of the cabinet and shall be approximately 100 mm in height. The leg supports shall also be fitted with rubber shoes.

**4.7 Hinges** — The hinges shall be made of metal sheet not less than 1.6 mm thick and shall be secured to metallic hinge brackets not less than 3.15 mm thick on one side and shall be secured to the door on the other side of the fulcrum.

**4.8 Locks** — The lock shall be not less than six lever lock with duplicate keys of non-corrosive material. For large cabinets, the locking arrangements shall have a three-way bolting device controlled by a lock and operated by a handle.

**5. Assembly** — The various metal components shall be assembled by means of bolts or rivets or fusion welding, or spot welding.

## **6. Workmanship and Finish**

**6.1** The cabinet shall be properly constructed with all welded joints sound, clean and well formed. The welded surface shall be clean and smooth. The vertical members shall be perpendicular to the base and the horizontal members shall be at right angles to the vertical members and shall be parallel to each other.

**6.2** The glass shelves shall fit properly and lie flat on the rubber or PVC cushions.

**6.3** The door shall fit closely. When the door is open there shall be 'no play on the hinges and the door shall open and close easily.

**6.4** The base shall be sturdy and capable of withstanding strain caused by moving cabinet in any direction. The cabinet shall be provided with suitable handle of brass chromium plated in accordance with service Grade No. 2 of IS : 4827-1968 'Specification for electroplated coatings of nickel and chromium on copper and copper alloys'.

**6.5** All dents, burrs and sharp edges shall be removed from the various components and they shall be pickled, scrubbed and rinsed to remove grease, rust, scale or any other foreign element.

**6.6** After pickling, all the mild steel parts shall be given phosphating treatment in accordance with IS : 3618-1966 'Specification for phosphate treatment of iron and steel for protection against corrosion', followed by a coat of suitable primer, such as red oxide.

**Note** — Filler shall be applied to all the surfaces requiring filling and shall conform to IS : 110-1968 ' Specification for ready mixed paint, brushing, grey filler, for enamels, for use over primers (first revision) '. The primer shall conform to the requirements of IS : 2074-1962 ' Specification for ready mixed paint, red oxide-zinc chrome, priming ' for air drying process and IS : 2075-1962 ' Specification for ready mixed paint, stoving, red oxide-zinc chrome, priming ' for stoving process.

**6.7** Two coats of enamel paint shall then be applied as follows:

- a) Undercoat.
- b) Finish coat with synthetic stoving enamel conforming to IS : 150-1950 ' Specification for ready mixed paint, brushing, finishing, stoving, enamel, colour as required ' or IS : 6125-1971 ' Specification for enamel, synthetic, stoving, for automobiles ', according to the requirement of the purchaser.
- c) The components shall thereafter be baked at a specified temperature in an oven heated uniformly. The enamel shall strongly adhere to the surface. The finish shall be free from all visible defects and shall not chip, when tapped lightly with a pointed instrument.
- d) If required by the purchaser two coats of air drying enamel according to IS : 2932-1964 ' Specification for enamel, synthetic, exterior, Type 1, (a) undercoating, (b) finishing, colour as required ' may be applied.

## 7. Test

**7.1 Adhesion Test** — Shall be according to 6.1.1 of IS : 4033-1968 ' General requirements for hospital furniture '.

**8. Marking** — Each cabinet shall have a label fixed to it bearing the manufacturer's name, initials or recognized trade-mark and the size of the cabinet.

**8.1 ISI Certification Marking** — Details available with the Indian Standards Institution.

**9. Packing** — As agreed to between the purchaser and the supplier.